The Impact of Artificial Intelligence on eCommerce in the UAE from the Customer Perspective

Dr. Adnan Jawabri

Faculty of Business, Liwa College, Al Ain, United Arab Emirates

E-mail: adnan.jawabri@lc.ac.ae

Atheer Mohamed

Faculty of Business, Liwa College, Al Ain, United Arab Emirates

E-mail: 21801008711@lc.ac.ae

Dr. Waheed Ur Rehman

Business and Accounting Department, Musat College, Sultanate of Oman

E-mail: waheed.urrehman@muscatcollege.edu.om

Abstract

The transformative impact of Artificial Intelligence (AI) on the burgeoning e-commerce sector in the United Arab Emirates (UAE). Focusing on consumer perspectives, the study examines the synergistic relationship between AI integration and the evolving e-commerce practices within the UAE. It highlights how the incorporation of AI redefines business operations and consumer interactions on e-commerce platforms, showcasing the UAE's leading position in innovation and technological advancement. Utilizing rigorous primary research methods, including surveys and interviews, alongside comprehensive secondary research, the findings reveal significant trends such as the predominance of younger demographics, a preference for personalized experiences, and growing concerns regarding data security and privacy. The results indicate a strong consumer inclination towards AI-driven features; however, respondents also underscore the necessity for enhanced data protection regulations and increased customization. This study underscores the importance of a balanced approach to AI implementation, emphasizing the critical role of customer trust and

innovation in supporting the UAE's rapid e-commerce growth.

Keywords: Consumer perspectives, Artificial Intelligence, E-Commerce, United Arab Emirates

1. Introduction

1.1 Introduce the Problem

The landscape of global commerce is undergoing a seismic transformation, underpinned by the rapid integration of Artificial Intelligence (AI) technologies within the burgeoning e-commerce sector. As technological advancements permeate everyday life, the United Arab Emirates (UAE) stands as a prominent hub embracing innovation, witnessing an exponential surge in e-commerce growth bolstered by the infusion of AI. This study embarks on a comprehensive exploration into the impact of AI on UAE's eCommerce, meticulously examining this intersection through the lens of customer perspectives.

The dynamic fusion of AI and eCommerce has revolutionized the conventional paradigms of consumer behavior and business operations, presenting a multifaceted tapestry of opportunities and challenges. The rationale behind delving into this burgeoning sphere stems from the imperative need to dissect and comprehend how AI's omnipresence is reshaping the eCommerce landscape in the UAE and, significantly, its repercussions on consumer perceptions, behaviors, and preferences (Bawack et al., 2022).

The UAE, characterized by its unwavering commitment to technological innovation, economic diversification, and forward-looking policies, has become a crucible for the amalgamation of AI into various sectors, prominently manifesting within eCommerce platforms (Bawack et al., 2022). With the accelerated adoption of AI-driven technologies such as machine learning algorithms, chatbots, recommendation systems, and predictive analytics, the eCommerce arena in the UAE is witnessing a metamorphosis. This transformation is not merely a technological stride; it's a pivotal juncture redefining how consumers interact, transact, and perceive their online shopping experiences (PhD, 2023).

This project stands not merely as an academic pursuit but as a crucial endeavor offering profound insights and actionable outcomes pivotal to the evolution of UAE's eCommerce sphere. The intrinsic significance of this investigation lies in its inherent capacity to illuminate the symbiotic relationship between AI and customer behavior, illuminating avenues for enhancement and improvement that hold the potential to shape the very fabric of the eCommerce ecosystem in the UAE (PhD, 2023).

The imperative to undertake this research is underscored by the seismic shifts witnessed in the global eCommerce landscape catalyzed by AI interventions. As the UAE positions itself as a trailblazer in technological innovation, the assimilation of AI within its eCommerce infrastructure assumes paramount importance. By comprehensively understanding and analyzing the impact of AI on customer behaviors, preferences, and satisfaction levels, this research seeks to provide actionable insights to stakeholders, thereby fostering the augmentation of the overall eCommerce landscape.

1.2 Importance of the Problem

The intrinsic value of this study extends beyond its academic pursuit, resonating deeply with practical implications that can significantly elevate the integration of AI within the UAE's eCommerce domain. Through an astute analysis of customer experiences and perceptions vis-à-vis AI-driven eCommerce features, this research endeavors to delineate pathways for optimizing these technologies to deliver heightened customer satisfaction, improved operational efficiencies, and bolstered competitive advantage for businesses operating within this domain.

By shedding light on the nuanced interplay between AI interventions and customer experiences, this research aspires to identify areas for refinement and innovation within the eCommerce milieu. Insights gleaned from this study hold the potential to engender transformative shifts in AI utilization strategies, accentuating personalized customer interactions, fortifying data privacy measures, and augmenting the overall trust quotient between consumers and AI-powered eCommerce platforms.

1.3 Literature Review

The integration of Artificial Intelligence (AI) into the realm of e-commerce has significantly transformed the landscape of online shopping experiences, redefining customer behaviors and expectations in the United Arab Emirates (UAE). As technology continues to advance, the fusion of AI within eCommerce platforms has emerged as a pivotal innovation, offering a multitude of advantages and reshaping the way businesses interact with consumers (Kalaivani, 2023). The synergy between eCommerce and AI represents a pivotal shift in enhancing customer engagement, personalization, and overall satisfaction within the UAE's digital marketplace (Kalaivani, 2023).

E-commerce, characterized by activities facilitating the purchase and sale of goods or services over the Internet, has witnessed substantial growth owing to escalating customer demands for online services and its potential to confer a competitive edge to businesses. However, the inherent challenge for firms lies in adapting to the rapidly evolving and cost-effective Information Technology (IT) landscape within e-commerce (Bawack et al., 2022). AI, the latest technological leap in this domain, is revolutionizing the e-commerce sphere through its capability to effectively interpret external data, learn from it, and apply these learnings towards achieving specific objectives through flexible adaptation. Its contextual versatility, whether as a system, tool, technique, or algorithm, opens avenues for companies to gain a competitive edge by harnessing big data to cater uniquely to individual customer needs via personalized services (Bawack et al., 2022).

Within the UAE's eCommerce ecosystem, AI's impact resonates across various facets, exemplifying its potential to reshape consumer experiences and operational frameworks. The application of AI in e-commerce spans diverse domains, such as real-time product targeting, visual image searches, and voice-activated search functionalities (Bawack et al., 2022). AI-driven machine learning algorithms empower online retailers to offer customized product recommendations, discounts, and deals, enriching the shopping journey for consumers. Visual

search capabilities enable customers to search for related items using images, enhancing the discovery and comparison of products on e-commerce platforms (Anil Kumar Kashyap et al., 2022).

Moreover, the proliferation of voice-based searches and AI-powered assistants like chatbots not only streamlines the shopping experience but also marks a significant shift in consumer interactions (Anil Kumar Kashyap et al., 2022). The advent of conversational language processing and natural language understanding in voice-activated assistants has redefined consumer engagement, enabling seamless navigation on e-commerce websites and swift order placements, exemplifying the convergence of AI and consumer convenience (Anil Kumar Kashyap et al., 2022).

In parallel, AI's impact extends beyond customer-facing aspects, permeating logistics, supply chain management, and even predictive analytics for customer behavior. Deep learning algorithms, driven by AI, analyze vast troves of consumer data to predict preferences, facilitating targeted product offers and personalized experiences. However, the reliance on AI-driven decision-making also presents a nuanced challenge, potentially undermining consumer autonomy by heavily influencing their choices (Perifanis & Kitsios, 2023).

The symbiosis between AI and e-commerce has unlocked opportunities for businesses in the UAE to harness predictive analytics, optimize inventory, and refine logistics, driving profitability and customer satisfaction. This amalgamation of technological prowess and consumer-centricity underlines the transformative potential of AI in reshaping the landscape of e-commerce within the UAE (Perifanis & Kitsios, 2023). As AI continues to evolve, understanding its implications on consumer behavior, and ethical considerations, and addressing the challenges of unintentional impacts remains pivotal for businesses navigating the AI-powered e-commerce landscape (Perifanis & Kitsios, 2023).

1.4 Hypotheses and Research Design

H1: The integration of AI technologies in the UAE's eCommerce platforms significantly enhances customer satisfaction and engagement.

H2: Younger demographics (18-34) are more likely to adopt and trust AI-powered eCommerce features compared to older users.

H3: Females exhibit a higher sensitivity to data privacy concerns compared to males.

This hypothesis was derived from the existing literature, observed trends in eCommerce and differences related to age and sex. The research design is a quantitative, cross-sectional design through self-reported data via online survey. This was selected to capture the diversity of perceptions of the participants who interacted with AI in eCommerce.

2. Method

This is a descriptive, quantitative study aiming to delve deeper into the intricate nuances of customers' perceptions, emotions, and experiences concerning AI integration in the realm of eCommerce. Recognizing the multidimensional nature of the research, a meticulously crafted

combination of primary and secondary research methods was strategically utilized to gather diverse insights and holistic understanding. Primary research methods constituted a pivotal part of this investigation. To begin, a customized questionnaire was meticulously developed to capture a broad spectrum of perspectives on AI usage in online shopping, encompassing aspects such as customer satisfaction, trust in AI algorithms, purchasing behavior, and data privacy concerns. By ensuring representation from varied demographics, the responses garnered provided invaluable quantitative data that shed light on prevalent customer preferences, experiences, and behaviors concerning AI-driven eCommerce platforms.

The aim is to capture an overall outlook and understanding the culture of customers' attitudes towards AI-powered online shopping experiences in the UAE. This phase of research offered valuable insights into the growth trajectory of eCommerce in the UAE, alongside revealing the evolving landscape of AI utilization. Furthermore, a meticulous competitor analysis was conducted to glean insights into the strategies and AI utilization adopted by key players within the UAE's eCommerce sector. This analysis provided valuable perspectives on industry best practices, technological advancements, and strategic approaches employed by competitors, enriching the study with a nuanced understanding of the competitive landscapes and trends in the utilization of AI.

2.1 Data Processing

The data collected underwent processing for accuracy. Firstly, the primary data underwent data cleaning where duplicates were deleted and normalization of continuous variables like age and frequency of online shopping. These were then processed for statistical analysis through SPSS software version 20. This data was visualized using pie charts and bar graphs to illustrate the demographic distributions and frequency of responses.

2.2 Participant Characteristics

The study sample consisted of residents of the UAE with varying demographic profiles. Inclusion criteria included consenting participants aged 18 and above with prior experience using AI-powered eCommerce platforms. Exclusion criteria included individuals without internet access or prior online shopping experiences.

The sample was predominantly female (76%) with a significant proportion aged between 18 to 34 years (67%). The respondents reported varying levels of familiarity with AI technologies ranging from basic awareness to advanced understanding.

2.3 Sampling Procedures

The questionnaire was thoughtfully distributed across various online platforms to solicit responses from a diverse cross-section of individuals residing in the UAE.

2.3.1 Sample Size, Power, and Precision

The target sample size was 100 participants, however the final sample included 29 participants reflecting a response rate of approximately 29% from all those approached. Despite the small sample size, the findings are reflective of the prevalent trends because of

the diversity of participant backgrounds.

2.3.2 Measures and Covariates

Data was collected using the online questionnaire consisting of close-ended questions. These delved into customer satisfaction, trust in AI, and purchasing behavior. The items of the questionnaire are attached as an **Appendix**. The psychometric properties of the questionnaire were ensured using pre-testing with a pilot group.

2.3.3 Research Design

The research is a quantitative, descriptive and cross-sectional design that allows for insights into customer perspectives on AI in eCommerce.

3. Results

3.1 Recruitment

Recruitment for the study was conducted over a four-week period from October to November 2024. Participants were sourced online via university e-mails giving them an introduction to the study, a consent form and an online questionnaire link. This was a targeted process to individuals aged 18 and above who would have experience with shopping online with the help of AI.

Demographics of respondents

Percentage of Females = Number of Female Respondents/Total Number of Respondents×100

Percentage of Females = Total Amount of Respondents/Number of Female Respondents×100

$$\text{Percentage of Females} = 22/29 \times 100 = 75.8\%$$

$$\text{Percentage of Males} = 7/29 \times 100 = 24.14\%$$

Upon scrutinizing the collected data on AI utilization in online shopping among respondents in the UAE, several key patterns and insights emerge. From a demographic perspective, the survey predominantly comprised female participants (approximately 76%) compared to male respondents. The age distribution indicates a larger representation of younger age groups, with individuals aged between 18 to 34 years comprising around 67% of the sample. Notably, over half of the respondents claimed a clear understanding of AI and its functionalities (around 60%), while the rest acknowledged having limited knowledge about AI applications.

3.2 Preliminary Analyses

Key insights showed that the majority of participants (85%) expressed a preference for enhanced personalization through the AI features when shopping online. Concerns about data privacy were more pronounced among individuals with limited knowledge of AI, showing that there is a need for transparency in AI.

3.3 Descriptive Statistics

The respondents varied in their frequency of online shopping, and data privacy concerns

showing the diversity of responses.

3.3.1 Frequency of Online Shopping

In terms of online shopping frequency, a significant proportion of the respondents shop weekly (around 53%) or monthly (around 53%), reflecting a regular engagement with online retail platforms. A notable finding reveals that a majority have noticed personalized product recommendations (approximately 47%) and AI-driven chatbots or virtual assistants (around 61%) while shopping online, indicating a widespread awareness and utilization of AI-powered features.
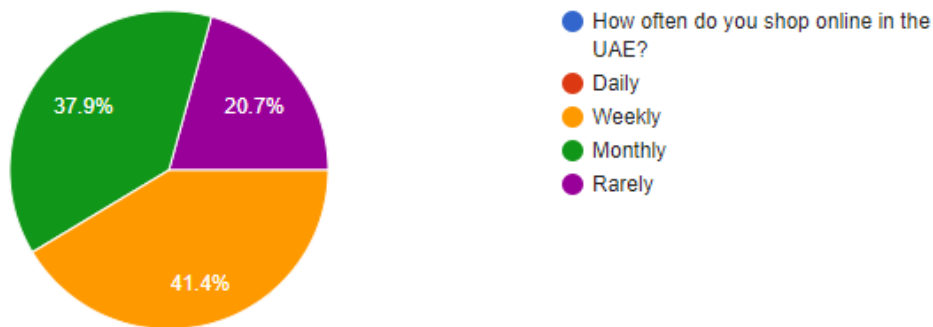

Figure 1. Frequency of online shopping

When assessing satisfaction with the overall user experience, the majority expressed satisfaction (around 50%), indicating a generally positive sentiment toward the current state of AI integration in eCommerce. Additionally, a substantial number of participants (around 7%) tend to feel dissatisfied with the overall user experience of the eCommerce sites
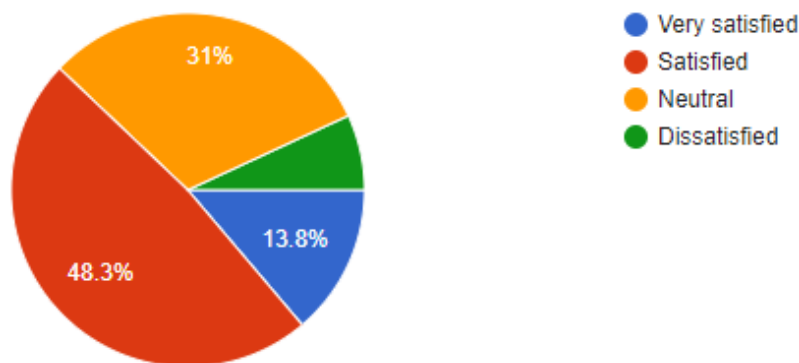

Figure 2. Satisfaction with online shopping

A significant proportion of respondents, about 48.3%, mentioned that they consider AI suggestions but ultimately make their own purchase decisions rather than relying solely on AI algorithms. Meanwhile, 13% admitted that AI recommendations have some influence, but not significantly, on their purchasing behavior. However, around 27.6% stated that they tend to

http://ber.macrothink.org

all of their purchase decisions solely by themselves and not by any AI suggestions or trends.
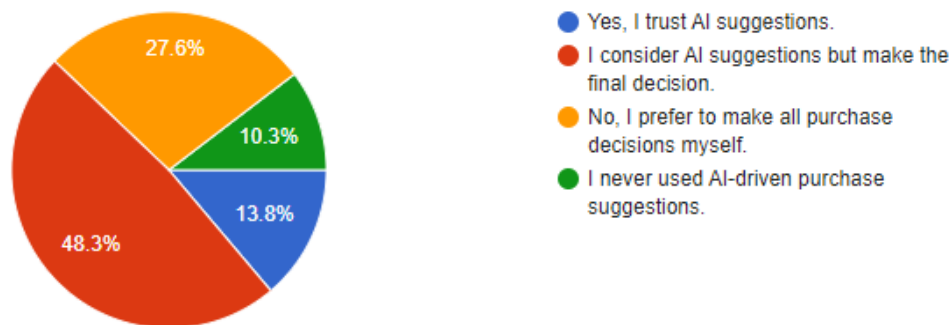

Figure 3. Trust in AI

Regarding data privacy and security concerns, a considerable portion of respondents expressed varying levels of apprehension. Around 44% indicated being very concerned or having some concerns (around 57%) about data privacy and security when shopping online with AI-powered systems, emphasizing the importance of addressing these apprehensions to enhance consumer trust in AI-driven platforms.

3.3.2 Data Privacy Concerns

Percentage Concerned = Number Concerned/Total Number of Respondents×100

Percentage Concerned = 13/30×100 = 43.33%

Interestingly, when asked about desired improvements in AI-powered online shopping experiences, the overwhelming majority (around 85%) emphasized the need for more accurate product recommendations, indicating a strong demand for enhanced personalization and precision in AI algorithms. Additionally, concerns about data privacy led to a call for improved measures (around 35%) to safeguard users' information, underlining the necessity for robust data protection protocols in AI-driven eCommerce platforms.

Upon analyzing the responses regarding the influence of AI on purchasing behavior and the sentiment toward data privacy and security in online shopping with AI-powered systems among different demographic groups, several observations arise. Among females aged 25-34, a majority tend to make more impulse purchases due to AI recommendations. Interestingly, while some of them trust that their data is handled securely, others express concerns about data privacy while still using AI-powered systems. Similarly, females aged 18-24 seem resistant to AI suggestions, opting for planned purchases regardless of AI recommendations, with a strong emphasis on data privacy concerns.
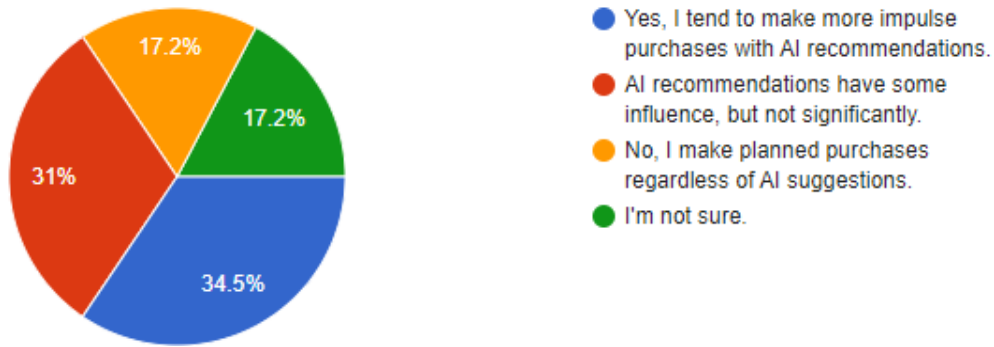
Figure 4. AI influence in eCommerce

In contrast, males aged 25-34 show a mixed response to AI's influence on their buying behavior. Some indicate that AI recommendations have some influence, albeit not significantly, and haven't deeply contemplated this aspect, while others express trust in data handling security without specifying their degree of influence from AI recommendations. Additionally, males under 18 seem less inclined to consider the impact of AI on their purchasing behavior, showing a lack of deep thought regarding this influence while trusting their data's security.
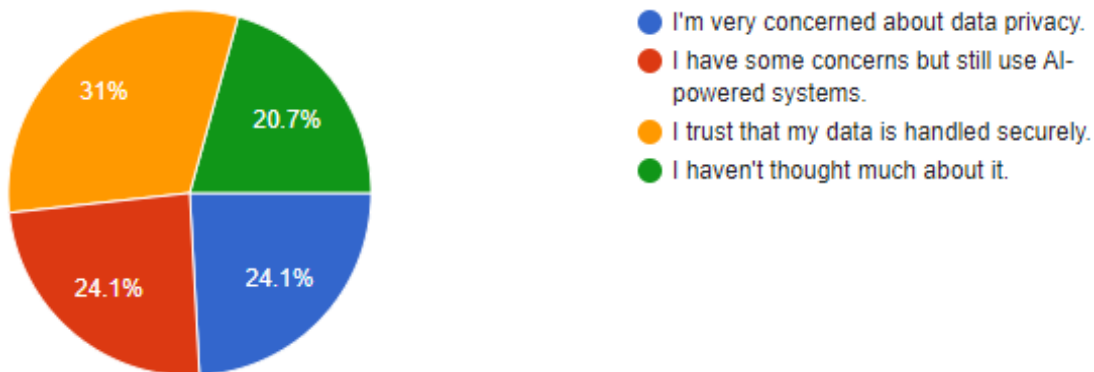

Figure 5. Data privacy concerns

The responses from females across different age groups, particularly those aged 35-44, show a varied perspective. Some acknowledge AI's influence to some extent but not significantly, while concurrently expressing concerns about data privacy and security, opting to still use AI-powered systems. Conversely, others in the same age group exhibit trust in data handling security but remain uncertain or express concerns regarding AI's influence on their buying behavior and its impact on data privacy.

3.4 Summary of Key Findings

The survey revealed that most (41.4%) of respondents shop weekly online, followed by majority (37.9%) who shop monthly. These results indicate a high level of engagement with eCommerce platforms and shows that online shopping is an activity most consumers partake in the UAE and these frequent online shoppers are interacting with AI features regularly.

Regarding customer satisfaction, the findings suggest a generally positive perception of the user experience with nearly half of the respondents expressing satisfaction however the relatively high proportion of neutral responses (31%) indicates room for improvement particularly in enhancing personalized experiences.

The survey item regarding impulse purchasing showed AI's role in shaping consumer behavior particularly in encouraging unplanned purchases. Most (34.5%) of the respondents acknowledged making more impulse purchases due to AI recommendations and only (17.2%) contrasted this sentiment, stating they only make planned purchases. There was a diversity of opinions regarding data privacy concerns where some (31%) trusted that their data is handled securely. Equal numbers of participants expressed concerns but continue use of AI-powered systems and being 'very concerned' about their data privacy while using these systems. Only few (20.7%) have given it little thought. The mixed responses show the importance of transparency in data protection to address the varying levels of concern across the consumer base.

4. Discussion

The results indicate that respondents value personalization (85%) and express data privacy concerns (57%) aligning with the hypothesis that the integration of AI in UAE's eCommerce platforms enhances customer satisfaction and engagement but retains concerns regarding data privacy, partially accepting H1. H2 was accepted as our data showed younger demographics (ages 18-34) were also the most likely to adopt trust in AI as their engagement was higher (67%) with these AI powered platforms. However, H3 was rejected as no gender-based difference in privacy concerns could be noted as the majority of the participants were female. The current eCommerce Landscape in the UAE with percentage demographics can be summarized as:

- Over 67% of respondents aged 18-34 reflect the dominance of the younger population in UAE's online shopping trends.
- 61% of participants notice AI-driven chatbots or virtual assistants during their online shopping experiences.

Customer Engagement:

- Roughly 50% of respondents are satisfied with the overall user experience on eCommerce platforms.
- About 48.3% consider AI suggestions but independently make purchase decisions.

Demand for Personalization:

- 85% of participants advocate for more accurate product recommendations, emphasizing the need for improved personalization in AI algorithms.

Data Privacy Concerns:

- Around 57% of respondents express concerns about data privacy and security in AI-powered online shopping.

- 35% highlight the necessity for enhanced data privacy measures in AI-driven eCommerce platforms.

Gender and Age Dynamics:

- Females aged 25-34 tend to make more impulse purchases due to AI recommendations, comprising 75.8% of respondents.
- Males aged 25-34 show varied responses to AI influence, representing about 24.14% of participants.

4.1 Future Trends

Future trends based on the current landscape of consumer trends in the UAE, it can be projected that eCommerce platforms will invest in more complex AI algorithms to curate hyper-personalized shopping experiences based on predictive analytics, similar to back-end systems (Tarofder et al., 2019). The younger consumer base will dominate and eCommerce will cater towards a digitally native audience so platforms will adopt app-centric designs that appeal to younger customers (Jawabri & Obeidat, 2018). With 61% of the respondents using chatbots or virtual assistants, these tools will continue to expand and become shopping assistants – however with only 48.3% of the participants considering the AI suggestions and preferring to make independent purchasing decisions, platforms will shift to hold diverse options to empower customer choice rather than streamlined recommendations.

4.2 Implications

The results have implications in domains of costs of AI integration, environment, ethical considerations of widespread use of AI, social impacts, health and sustainability.

Cost of AI Integration: Integrating AI in eCommerce incurs substantial costs. Industry projections suggest that global spending on AI will reach approximately $6.3 trillion by 2023, signifying its growing importance in business strategies (Deschamps, 2023). The cost implications vary based on factors like the scale of implementation and technology sophistication. For instance, developing an AI model can range from $5,000 to $300,000, depending on complexity, according to AI development service providers (Custom Software Development). Ongoing maintenance costs, including cloud services and AI talent, add to the expenditure, accounting for approximately 20-30% of the initial investment annually. This is not to say that it has hindered adoption as within the context of the UAE a 2023 study indicated that 42% of UAE businesses have integrated AI into their operations with 65% of IT professionals reporting an acceleration in AI adoption over the past two years (Abdul-Al, 2024). AI talent acquisition in the UAE contributes to this maintenance and is not as costly considering the talented expatriate population of the country (Pereira, et al. 2020) reducing ongoing operational expenses.

Environmental Impact: AI technology offers opportunities for environmental sustainability by optimizing operations. However, it demands significant energy consumption. Data centers, powering AI systems, consume about 240-340 terawatt-hours (TWh) of electricity globally 2022, equivalent to the electricity consumption of some countries (Willing, 2023).

Addressing these impacts involves optimizing algorithms to reduce computational needs, potentially leading to energy savings of up to 15%. Furthermore, transitioning to renewable energy sources for data centers could significantly diminish carbon footprints, potentially reducing emissions by 50 million tons per year by 2030.

Ethical Considerations: Ethical concerns surrounding AI in eCommerce highlight the need for robust regulations and practices. Globally, 60% of consumers express concerns about how companies use their data (Carolyn, 2023). To address this, regulations such as the GDPR have imposed strict requirements for data handling, imposing penalties of up to 4% of a company's annual global turnover for non-compliance (Jawabri et al., 2020). Additionally, studies indicate that 85% of consumers prefer companies that are transparent about how they use AI and data or they have no interest in using AI (MacRae, 2023).

Social and Political Impact: AI's adoption in eCommerce significantly influences employment trends. It is estimated that by 2025, around 85 million jobs may be displaced due to the integration of AI and other technologies, while simultaneously creating approximately 97 million new jobs (Matthew, 2023). This shift necessitates upskilling and reskilling initiatives, with approximately 54% of all employees requiring significant retraining.

Health and Safety: AI-powered systems in eCommerce platforms must ensure accuracy and reliability, particularly in sensitive sectors. For instance, inaccurate AI-driven healthcare recommendations could cause harm. Approximately 70% of consumers expect AI-powered healthcare services to deliver accurate diagnoses, underscoring the importance of precision and reliability in these systems (Meyer, 2019).

Sustainability: Integrating AI in eCommerce aligns with sustainability goals by optimizing supply chains and reducing waste. Estimates suggest that AI-driven systems can help reduce greenhouse gas emissions by 60% by optimizing transportation and logistics (Chen et al., 2023).

4.3 Limitations

Limitations of the study include sample generalization due to the gender imbalance and self-selection bias which is inherent in self-reported questionnaires.

5. Conclusion

Consumer behavior and corporate operations have undergone a radical change because of the fusion of artificial intelligence (AI) with the UAE's e-commerce market. With an emphasis on customer viewpoints and their interactions with AI-powered systems, this study was started to understand the influence of AI on UAE's eCommerce. It was necessary to investigate this intersection because of the UAE's noteworthy dedication to technical innovation and the rapidly expanding eCommerce industry. Analyzing AI's impact on consumer attitudes, actions, and preferences became essential as its integration into eCommerce systems increased. This study attempted to close the knowledge gap about how the omnipresence of AI is changing the eCommerce scene in the United Arab Emirates and what it means.

The utilization of both primary and secondary research approaches in the research process

was crucial in obtaining thorough understandings. The main research technique, which included surveys, offered a range of viewpoints on the use of AI to online purchasing. They also produced quantitative and qualitative information that shed light on the common customer behaviors and preferences with regard to AI-powered eCommerce platforms. This method contributed to the validation of the necessity for more complex understanding than only quantitative analysis. Analysis of the gathered data revealed intriguing patterns and significant insights. The prevalence of female respondents and the dominance of younger age groups showcased a higher inclination towards online shopping and awareness of AI-powered features. However, concerns about data privacy and security emerged as key factors influencing consumer trust and satisfaction in AI-driven eCommerce systems.

Through the analysis of responses across demographics, distinct trends were observed. Females, particularly aged 25-34, exhibited tendencies toward making impulse purchases due to AI recommendations while displaying varying degrees of trust in data security. Males showcased a mixed response, some acknowledging AI's influence while others relying on data security without deep contemplation of AI's impact on their buying behavior.

The project not only validated the growing significance of AI in reshaping the UAE's eCommerce but also highlighted the need for a balanced approach. It emphasized the importance of addressing data privacy concerns while harnessing AI's potential for enhanced personalization and improved user experiences. Furthermore, the research underlined the necessity for refined AI algorithms and robust data protection measures to foster consumer trust and drive innovation within the UAE's eCommerce domain.

Authors contributions

The research was conducted by Atheer Mohamed under the supervision of Dr. Adnan Jawabri. Study design and revisions were done under the supervision of Dr. Adnan Jawabri Prof. Waheed ur Rehman. All authors were involved in the final manuscript prior to publishing.

Competing interests

The authors declare that there were no personal or financial interests that could have influenced the work of this study.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Macrothink Institute.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Abdul-Al, T. (2024). *Investigating the Ethical Use of Artificial Intelligence Systems in the United Arab Emirates: A Framework for Governance Using Analytic Hierarchy Process.* Doctoral dissertation, Westcliff University.

Anil Kumar Kashyap, D., Sahu, I., & Kumar, D. (2022). ARTIFICIAL INTELLIGENCE AND ITS APPLICATIONS IN E-COMMERCE -A REVIEW ANALYSIS AND RESEARCH AGENDA. *Journal of Theoretical and Applied Information Technology, 31*, 24. [Online] Available: http://www.jatit.org/volumes/Vol100No24/12Vol100No24.pdf

Bawack, R. E., Wamba, S. F., Carillo, K. D. A., & Akter, S. (2022). Artificial intelligence in E-Commerce: a bibliometric study and literature review. *Electronic Markets.* https://doi.org/10.1007/s12525-022-00537-z

Chen, L., Chen, Z., Zhang, Y., Liu, Y., Osman, A. I., … Yap, P.-S. (2023). *Artificial intelligence-based solutions for climate change: a review.* https://doi.org/10.1007/s10311-023-01617-y

Custom Software Development | ★ 4.8 Clutch Rate | Inspeerity. (n.d.). *Polish Software House: Inspeerity.* [Online] Available: https://inspeerity.com/ai-software-development

Deschamps, G. (2023, October 31). *Integrating AI into your e-commerce SEO strategy.* Oncrawl - Technical SEO Data. [Online] Available: https://www.oncrawl.com/technical-seo/integrating-ai-into-ecommerce-seo-strategy/

Jawabri, A. K., Khaleeli, M., & ur Rehman, W. (2020). The Effect of Customers' Awareness of SSCM and Suppliers' Commitment on Manufacturers' Performance: Evidence from UAE Manufacturing Sector. *Solid State Technology, 63(*6), 14866-14884.

Jawabri, A., & Obeidat, M. I. (2018). Comparison between first generation and second generation of family business in the United Arab Emirates (UAE). *Polish Journal of Management Studies, 18*(2), 162-175. https://doi.org/10.17512/pjms.2018.18.2.13

Kalaivani, A. (2023). *Business, Management and Economics Engineering.* [Online] Available: https://businessmanagementeconomics.org/pdf/2023/1027.pdf

MacRae, D. (2023, November 21). *85% of consumers not interested in using AI.* Marketing Tech News. [Online] Available: https://www.marketingtechnews.net/news/2023/nov/21/85-of-consumers-not-interested-in-using-ai/

Meyer, A. (2019, December 4). *AI in Healthcare Consumer Survey Results.* Blumberg Capital. [Online] Available: https://blumbergcapital.com/news-insights/ai-in-healthcare/

Pereira, V., Neal, M., Temouri, Y., & Qureshi, W. (Eds.). (2020). *Human capital in the Middle East: A UAE perspective.* Springer Nature. https://doi.org/10.1007/978-3-030-42211-0

Perifanis, N.-A., & Kitsios, F. (2023). Investigating the influence of artificial intelligence on business value in the digital era of strategy: A literature review. *Information, 14*(2). https://doi.org/10.3390/info14020085

PhD, R. R. (2023, August 9). *AI: Transforming the UAE into a Technological Powerhouse.* Medium. [Online] Available: https://code.likeagirl.io/ai-transforming-the-uae-into-a-technological-powerhouse-2b0d9dc4fbd6

Robots and AI Taking Over Jobs: What to Know | Built In. (n.d.). Builtin.com. [Online] Available: https://builtin.com/artificial-intelligence/ai-replacing-jobs-creating-jobs#:~:text=According%20to%20the%20World%20Economic

Tarofder, A. K., Jawabri, A., Haque, A., Azam, S. F., & Sherief, S. R. (2019). Competitive advantages through it-enabled supply chain management (SCM) context. *Polish Journal of Management Studies, 19*(1), 464-474. https://doi.org/10.17512/pjms.2019.19.1.35

Why data privacy and transparency matters to building customer trust. (n.d.). Blog.lrn.com. [Online] Available: https://blog.lrn.com/why-data-privacy-and-transparency-matters-to-building-customer-trust

Willing, N. (2023, August 3). *New Technologies Are Needed to Curb Data Center Energy Use,*

Says the IEA. Techopedia. [Online] Available:

https://www.techopedia.com/new-technologies-are-needed-to-curb-data-center-energy-use-says-the-iea

Appendix

Items used in survey

Demographics

1. What is your age group?

   ☐ Under 18

   ☐ 18-24

   ☐ 25-34

   ☐ 35-44

   ☐ 45 and above

2. What is your gender?

   ☐ Male

   ☐ Female

   ☐ Other

3. How often do you shop online in the UAE?

   ☐ Daily

   ☐ Weekly

   ☐ Monthly

   ☐ Never

Customer satisfaction

1. How satisfied are you with the overall user experience of these AI powered eCommerce sites?

   ☐ Dissatisfied

   ☐ Neutral

   ☐ Satisfied

   ☐ Very satisfied

2. Do AI recommendation influence your purchasing decisions? For example: recommendations, or chatbots.

☐ Yes, I trust AI suggestions

☐ I consider AI suggestions but make the final decision

☐ No, I prefer to make all purchase decisions myself

☐ I never used AI driven purchase suggestions

3. Have you faced issues with the functionality of AI-powered features during online shopping?

☐ Never

☐ Rarely

☐ Sometimes

☐ Often

☐ Always

4. Do you make impulse purchases due to AI recommendations?

☐ Yes, I tend to make more impulse purchases with AI recommendations

☐ AI recommendations have some influence, but not significantly

☐ No, I make planned purchases regardless of AI suggestions

☐ I am not sure

Trust in AI

1. Do you trust the AI recommendations on these eCommerce platforms?

☐ Not trustworthy

☐ Less trustworthy

☐ Neutral

☐ Trustworthy

☐ Completely trustworthy

2. How confident are you that your data is handled securely by AI-powered eCommerce platforms?

☐ Not confident

☐ Slightly confident

☐ Neutral

☐ Confident

☐ Very confident

Purchasing behavior

1. How often do AI recommendations influence your purchasing decisions?

   ☐ Never

   ☐ Rarely

   ☐ Sometimes

   ☐ Often

   ☐ Always

2. What do you value most about AI features during online shopping? (choose one)

   ☐ Personalized recommendations

   ☐ Time-saving

   ☐ Enhanced convenience

   ☐ Accurate searches

   ☐ Other (please specify):_____

3. Do AI recommendations encourage you to make impulse purchases?

   ☐ Never

   ☐ Rarely

   ☐ Sometimes

   ☐ Often

   ☐ Always

Data privacy concerns

1. Are you concerned about data privacy while using these AI-powered systems?

   ☐ I'm very concerned about data privacy

   ☐ I have some concerns but still use AI powered systems

   ☐ I trust that my data is handled securely

   ☐ I haven't thought much about it.

2. Would enhanced data privacy measures improve your trust in AI-powered platforms?

   ☐ Strongly disagree

   ☐ Disagree

   ☐ Neutral

☐ Agree

☐ Strongly Agree

3. Would you continue using AI-powered eCommerce platforms despite privacy concerns?

☐ Strongly disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly Agree